

CLAIM AMENDMENTS:

Please cancel Claims 66 and 68-72, and add new Claims 73-81, as follows:

1.-72. (Cancelled)

73. (New) A radiation image pickup apparatus comprising:

a photoelectric conversion circuit section having a pixel group comprising a plurality of pixels each including a photoelectric conversion element and a switching element of an amorphous semiconductor, a plurality of signal wires are arranged over an insulating substrate in order to output parallel signals from the pixel group;

a first switch connected to the signal wires to reset the signal wires;

a wavelength converter for converting a radiation into light which can be sensed by the photoelectric conversion element; and

a reading circuit section for converting the parallel signals transferred through said signal wires to serial signals to output the serial signals, wherein

the reading circuit section has at least one analog operational amplifier connected to each signal wire, a first capacitor element being connected in series to an output terminal of the analog operational amplifier for passing through only an alternating component, a second switch for DC restoration of the first capacitor element, a third switch for sampling the parallel signal amplified by the analog operational amplifier and outputted through the first capacitor element, a second capacitor element for holding the parallel

signal transferred through the third switch, and a fourth switch for reading the parallel signal from the second capacitor element as the serial signal sequentially, and wherein the analog operational amplifier includes a function for reducing its power consumption based on an external signal.

74. (New) A radiation image pickup system comprising:  
a radiation image pickup apparatus according to Claim 73; and  
a light source for irradiating the radiation image pickup apparatus with a radiation.

75. (New) The radiation image pickup apparatus according to Claim 73, wherein, after the output signal outputted through the first capacitor element from the analog operational amplifier is sampled and held through the third switch by the second capacitor element, the first switch resets the signal wire of the operational amplifier, and the second switch is turned on together with the first switch simultaneously, and is turned off with a delay after turning off the first switch.

76. (New) The radiation image pickup apparatus according to Claim 73, wherein the analog operational amplifier has a controllable amplification ratio.

77. (New) The radiation image pickup apparatus according to Claim 73, wherein, in said reading circuit section, said analog operational amplifier has a noise

voltage density  $V_n$  ( $V / \sqrt{\text{Hz}}$ ) converted at an input terminal portion thereof, and a frequency band  $B$  (Hz) sufficient for amplification of a signal from said photoelectric conversion circuit section, and satisfies the relation of  $V_n \times \sqrt{B} \geq T_n$  against thermal noise effective voltage  $T_n$  (Vrms) of said switching element at the input terminal portion of said analog operational amplifier, occurring when the switching element in said photoelectric conversion circuit section is turned on.

78. (New) The radiation image pickup apparatus according to Claim 73, wherein the reading circuit section comprises further a resistor element arranged between the first capacitor element and the second switch.

79. (New) The radiation image pickup apparatus according to Claim 73, wherein the reading circuit section comprises further a low pass filter circuit connected to a terminal of the first capacitor element at a side opposite to a terminal thereof connected to the output of the analog operational amplifier.

80. (New) The radiation image pickup apparatus according to Claim 73, wherein the analog operational amplifier has a function of varying a slew rate.

81. (New) The radiation image pickup apparatus according to Claim 73, wherein the switch element is a thin film transistor comprising an amorphous silicon semiconductor layer.